

Amendments to the Claims

1-20 (Canceled)

21. (Currently Amended) A radio frequency (RF) amplifier circuit comprising a RF device to amplify a RF signal comprising an amplitude-modulated carrier having an amplitude modulation bandwidth, and a bias circuit to bias the RF device, said bias circuit comprising:

a bias amplifier to generate a low-impedance bias signal at a bias amplifier output based

on a bias reference voltage input to the bias amplifier;

a bias current-limiting resistor coupled to the bias amplifier output;

a reactive circuit having a first terminal coupled to the bias current-limiting resistor and a

second terminal coupled to a bias input of the RF device, said reactive circuit

configured to substantially block the RF signal from the bias circuit while

simultaneously passing the bias signal from the bias circuit to the RF device; and

said bias amplifier comprising an operational amplifier configured to have a desired gain

relative to the bias reference voltage and further configured to have an output

bandwidth enabling it to quash signal disturbances feeding back from the bias

input of the RF device that are not blocked by the reactive circuit and thereby

maintain a fixed bias voltage at the bias amplifier output wherein the bias

amplifier is selected to have an output signal bandwidth such that it sources and

sinks current as needed to maintain a fixed bias voltage at the bias amplifier

output even in the presence of signal disturbances feeding back from the bias

input of the RF device that are not blocked by the reactive circuit.

22. (Previously Added) The RF amplifier circuit of claim 21, wherein the RF device comprises a field-effect transistor (FET) device and the bias input comprises a gate input of the FET device to which the RF signal is applied, and wherein the signal disturbances arise from unwanted demodulation of the amplitude-modulated carrier by the FET device.

23. (Previously Added) The RF amplifier circuit of claim 22, wherein the gate input is ac-coupled to the RF signal via an input capacitor and low-pass coupled to the bias amplifier via the reactive circuit.
24. (Previously Added) The RF amplifier circuit of claim 21, wherein the RF device comprises a GaAs FET operated as a common-source amplifier, and wherein the bias current-limiting resistor is sized to limit gate current of the GaAs FET to a desired maximum value.
25. (Canceled)
26. (Currently Amended) The RF amplifier circuit of claim 21, wherein the bias amplifier comprises ~~an operational amplifier configured as~~ an inverting amplifier having a desired gain relative to the bias reference voltage.
27. (Currently Amended) The RF amplifier circuit of claim 21, wherein the bias amplifier comprises ~~an operational amplifier configured as~~ a buffer amplifier to provide a low-impedance voltage source at the bias reference voltage.
28. (Previously Added) The RF amplifier circuit of claim 21, wherein the reactive circuit comprises a 1/4 wavelength stub with respect to the RF signal input to the RF device.
29. (Previously Added) The RF amplifier circuit of claim 21, wherein the reactive circuit comprises a low-pass filter (LPF) circuit that includes an inductor in series with the bias current-limiting resistor and a shunt capacitor having a first terminal coupled to a node connecting the bias current-limiting resistor to the inductor and a second terminal coupled to a signal ground connection.

30. (Previously Added) The RF amplifier circuit of claim 29, wherein the inductor comprises a RF choke.

31-35 (Canceled)

36. (Newly Added) A bias circuit to provide gate bias to a RF transistor, the bias circuit comprising:

- an operational amplifier circuit to provide a low-impedance reference voltage at an output of the operational amplifier circuit;

- a current-limiting resistor coupled in series with the output of the operational amplifier circuit to limit bias current into a gate of the RF transistor; and

- a RF filter circuit to couple the current-limiting resistor to the gate of the RF transistor, said RF filter circuit configured to block RF input signals applied to the gate from the bias circuit; and

- said operational amplifier circuit configured to have an output bandwidth enabling it to quash signal disturbances fed back from the gate of the RF transistor over a range of frequencies not blocked by the RF filter circuit and thereby maintain the reference voltage at a substantially fixed value.

37. (Newly Added) The bias circuit of claim 36, wherein the RF filter circuit comprises an inductor coupled at one end to the gate of the RF transistor and coupled at the other end to the current-limiting resistor, such that the bias circuit is coupled to the gate of the RF transistor through the inductor.

38. (Newly Added) The bias circuit of claim 37, further comprising a shunt capacitor coupled to a node connecting the current-limiting resistor and the inductor.

39. (Newly Added) The bias circuit of claim 36, wherein the RF filter circuit comprises a RF choke placed in series with the current-limiting resistor, such that the bias circuit is coupled to the gate of the RF transistor through the RF choke.

40. (Newly Added) The bias circuit of claim 39, further comprising a shunt capacitor placed at a node connecting the current-limiting resistor and the RF choke.

41. (Newly Added) The bias circuit of claim 36, wherein the RF filter circuit comprises a quarter-wavelength stub at a RF input signal frequency.